Thu Sep 16 09:09:54 2004

Appendix R

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The invention relates to a novel human G-coupled receptor (1). (1) and its corresponding polynucleotides are useful for diagnosing, treating or preventing cell proliferative diseases (e.g. 1 wanhoma, leukaemia, breast cancer or cirrhosis), neurological disorders (e.g. stroke, Alzheimer's diseases, multiple sclerosis or mental retardation), cardiovascular diseases (e.g. atheroselerosis, angina pectoris or congestive heart failure), gastrointestinal disorders (e.g. dysphagia, indigestion or gastritis), autoimmune/inflammacory disorders (e.g. AIDS, Crohn's disease or systemic lupus erythematosus) or metabolic disorders (e.g. diabetes or obesity), or viral infections (e.g. infection by herpesvirus or parvovirus). AAUS0493-AAUS0515 represent novel human G-coupled receptor amino acid sequences of the invention

Sequence 321 AA;

ö VYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAHMFFIHAFCMMESTVLLAM 128 AFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLIMLPCPFFIGRINFCQSHVILHTY 188 180 248 240 GTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPVVYGVKTKQ 308 241 GTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPVVYGVKTKQ 300 **6**8 9 121 AFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFLIGRLNFCQSHVILHTY 9 MESPHHIDVDPSVFFLLGIPGLEQFHLWLSLPVCGLGTATIVGNITILVVVATEPVLHKP CEHMAVVKLACGDTRPNRVYGLTAALLVIGVDLFCIGLSYALIAQAVLRLSSHEARSKAL Gaps .; 0 Length 321; Indels 3; 96.0%; Score 1649; DB 5; 98.8%; Pred. No. 2.8e-173; ive 1; Mismatches 3; 329 IRKRVVRVFQSGQGMGIKASE 321 IRKRVVRVFQSGQGMGIKASE Best Local Similarity 96.0 Matches 317; Conservative Local Similarity 69 61 129 189 249 301 Query Match 309 qq ò g g à à g д à ð à 음

AAU95725 standard; protein; 321 AA 02-JUL-2002 (first entry) AAU95725; AAU95725 ZXEXEXEXEXEXEXEXEXEXEXEX

Human olfactory and pheromone G protein-coupled receptor #212.

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tranquilizer; antidepressant; neuroleptic; endocrine; anabolic; anorectic; taste; fragrance; food additive; cosmetic; cell migration; sterility; psychotic disorder; neurological disorder; anxiety; eschizophrenia; manic depression; depression; axonal growth; menstrual cycle; appetite sexual motivation; sexual atraction; Human; olfactory and pheromone G protein coupled; receptor; GPCR;

Homo sapiens

WO200224726-A2

28-MAR-2002

21-SEP-2001; 2001WO-BE000162.

22-SEP-2000; 2000EP-00870211.

SA (CHEM-) CHEMCOM

Veithen A;

2002-330013/36. N-PSDB; ABK68612 Novel pheromone G-protein coupled receptor and receptor-derived agonists, antagonists or inhibitors useful in food or cosmetic products or in the treatment or prevention of neurological disorders such as anxiety and schizophrenia.

Disclosure; Page 647-648; 833pp; English.

receptor (GPCR) or a protein 55% identical to the GPCK, a specific active portion and its encoding polynucleotide. Also included are an agonist, antagonist or inhibitor of the GPCR or the polynucleotide, a vector.

Comparising the polynucleotide, a cell transformed by the vector, a non-human mammal comprising a partial or total deletion of the polynucleotide compounds the receptor and screening (detection and possibly, recovering) of compounds which are known or not known to be agonist, antagonists or inhibitors of natural compounds to the GPCR. The receptor-derived agonists, inhibitors or compounds are used as an cimprovement, elimination or substitution of an existing taste and/or a fragrance of (or in) the food and/or cosmetic products. They can also be used in the preparation of medicament in the treatment and/or prevention of a mammalian disorder, such as cell migration, sterility, psychotic and neurological disorders, including anxiety, schizophrenia, manic depression, for promoting axonal growth, nerve cell connection and nerve regeneration for modulating male and female and Pheromone G-protein coupled behaviours, such as stimulation or suppression of appetite, sexual motivation, sexual attraction, aggression and for promoting or suppressing chemical communication between organisms. The present sequence is a human olfactory and pheromone GPCR protein sequence prevention or the treatment by stimulation of several mammalian The invention relates to olfactory

Sequence 321 AA;

DP ð g

ö 128 120 180 188 308 GTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLEPPALNPVVGVKTKQ 300 9 61 VYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAOMFFIHAFCMMESTVLLAM 121 AFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFLIGRLNFCQSHVILHTY 9 MESPHHIDVDPSVFFLLGIPGLEOFHLWLSLPVCGLGTATIVGNITILVVVATEPVLHKP 69 VYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAHMFFIHAFCMMESTVLLAM AFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFFIGRLNFCQSHVILHTY CEHMAVVKLACGDTRPNRVYGLTAALLVIGVDLFCIGLSYALIAQAVLRLSSHEARSKAL GICGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPVVYGVKTKQ Gaps ö 96.0%; Score 1649; DB 5; Length 321; 98.8%; Pred. No. 2.8e-173; ive 1; Mismatches 3; Indels (Best Local Similarity 98.8 Matches 317; Conservative 249 241 (129 189 Query Match

301 RESULT 11
ABR01673
ID ABR016
XX

309 IRKRVVRVFQSGQGMGIKASE 329

ABR01673 standard; protein; 316 AA.

Appearing UD

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240
                                                                                           241 HEARSKALGTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPV 300
                                                                                                             121 ESTVLLAMAFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFLIGRLNFCQ 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence is an olfactory receptor which is encoded by one of a number of novel polynuclectides. The polynuclectides can be used in screening for olfactory agonists and antegonists. The methods allow for the determination of primary scents and the identification of the odour receptors used to detect these primary scents. The methods also enable of dour receptors that are involved in detecting such secondary scents. This enables the construction of a scent representation (also called a scent fingerprint or scent profile), which may be used to re-create and edit scents. Libraries of olfactory receptors are useful for determining the interaction pattern of a composition with the receptors, and can be used for determining differences in the olfactory faculties of different
                                               Human; olfactory receptor; OR; primary scent determination; secondary scent determination; polypeptide library; odour receptor; scent profile; scent fingerprint; scent representation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New polynucleotides which encode polypeptides involved in olfactory sensation for identifying olfactory agonists and antagonists.
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                                                                                                                                                                                                                                                                                                                                                                  Human olfactory receptor polypeptide, SEQ ID NO: 1355.
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(YEDA ) YEDA RES & DEV CO LTD.
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24-FEB-2000; 2000US-0184809P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; cytostatic; neuroprotective; immunosuppressant; nootropic; anti-inflammatory; anti-viral; gastrointestinal; cardiovascular; cerboroprotective; G-coupled receptor; cell proliferative disease; lymphoma; leukaemia; breast cancer; cirrhosis; neurological disorder; stroke; Alzheimer's disease; multiple sclerosis; mental retardation; cardiovascular disease; atheroselerosis; angina pectoris; indigestion; congestive heart failure; gastrointestinal disorder; dysphagia; AIDS; gastritis; autoimmune disorder; inflammatory disorder; dropase; systemic lupus erythematosus; metabolic disorder; diabetes; obesity; acquired immune deficiency syndrome.
69 VYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAHMFFIHAFCMMESTVLLAM
                                                          61 VYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAQMFFIHAFCMMESTVLLAM
                                                                                                                    181 CEHMAVVKLACGDTRPNRVYGLTAALLVIGVDLFCIGLSYALSAQAVLRLSSHEARSKAL
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                                                                                                   129 AFDRYVALCHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFFIGRLNFCQSHVILHTY
                                                                                                                                                           CEHMAVVKLACGDTRPNRVYGLTAALLVIGVDLFCIGLSYALIAQAVLRLSSHEARSKAL
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Au-Young J;
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                                                                                                                                                                                                                                                                            IRKRVVRVFQSGQGMGIKASE 329
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25-MAY-2000; 2000US-0207476P.
02-JUN-2000; 2000US-0208834P.
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07-JUN-2000; 2000US-0209868P.
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Gandhi AR, Au
                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
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Kallick DA,
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9 MESPHHTDVDPSVFFLLGIPGLEQFHLWLSLPVCGLGTATIVGNITILVVVATEPVLHKP 68

96.0%; Score 1649; DB 4; Length 321; 98.8%; Pred. No. 2.8e-173; 1ve 1; Mismatches 3; Indels

Query Match Best Local Similarity 98.81 Matches 317; Conservative (Approx 173

Human; olfactory G-coupled receptor; sensory perception of odourant; Representing sensory perception of one or more odorants for the identification and design of tastes and odors comprises providing representative group of n olfactory receptors. odour composition; taste composition AAU85266 standard; protein; 329 AA Claim 1; Page 115; 182pp; English 22-JUN-2001; 2001WO-US020122. 22-JUN-2000; 2000US-0213812P. 13-MAR-2001; 2001US-00804291. Zozulya S, Stryer L; WPI; 2002-083330/11. N-PSDB; ABK37625. (first G-coupled olfactory (SENO-) SENOMYX INC Homo sapiens 27-DEC-2001, 08-MAY-2002 AAU85266; RESULT 6 AAU85266

The invention relates to a method of representing sensory perception of one or more odourants. The method comprises: (a) providing a representative class of n olfactory receptors or ligand binding domains (LIBD) of these receptors; (b) measuring values XI to Xn representative of at least one activity of one or more odourants selected from: (i) binding one or more odourants to the LBD of at least one of the n olfactory receptors; (ii) activating at least one of the n olfactory receptors with the one or more odourants; and (iii) blocking at least one of the n olfactory receptors with the one or more odourants; and (c) generating a representation of sensory perception from the values XI to Xn. The representation of the sensory perception from the values XI to Xn. The design and formulation of odour and taste compositions. AAUBS140-AAUBS391 represent Length 329; Sequence 329 AA;

o; TEPVI.HKPVYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAHMFFIHAFCMM 120 TEPVLHKPVYLFLCMLSTIDIAASVSTVPKLIAIFWCGAGHISASACLAQMFFIHAFCMM 120 9 9 MSSTLGHNMESPHHTDVDPSVFFLLGIPGLEQFHLWLSLPVCGLGTATIVGNITILVVVA Gaps .; 0 Indels Score 1691; DB 5; Pred. No. 6.7e-178; 1; Mismatches 3; 98.4%; Best Local Similarity 98.8 Matches 325; Conservative Query Match Best Local Similarity 61 g ò

ESTVLLAMAFDRYVAICHPLRYATILTDTIIAHIGVAAVVRGSLLMLPCPFFIGRLNFCQ 180 181 SHVILHTYCEHMAVVKLACGDTRPNRVYGLTAALLVIGVDLFCIGLSYALIAQAVLRLSS 240

61 121

g ઠે g 121 ESTVLLAMAFDRXVAICHPLRYATILTDTIJAHIGVAAVVRGSLLMLPCPFFIGRLNFCQ 180

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240 241 HEARSKALGTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPV 300 The invention relates to a novel polynucleotide encoding a guanosine triphosphate-binding protein coupled receptor (GPCR). A polynucleotide of the invention may have a use in gene therapy. The polynucleotide and polypeptide are useful for preparing a composition for treating a patient in need of increased or suppressed activity or expression of the guanosine triphosphate-binding protein coupled receptor. The protein sequences shown in ADC85549-ADC87617 represent GPCR's of the invention. 120 120 09 09 HEARSKALGTCGSHVCVILISYTPALFSFFTHRFGHHVPVHIHILLANVYLLLPPALNPV New polynucleotide, useful for preparing a composition for treating a patient in need of increased or suppressed activity or expression of t guanosine triphosphate-binding protein coupled receptor. 1 MSSTLGHNMESPNHTDVDPSVFFLLGIPGLEQFHLMLSLPVCGLGTATIVGNITILVVVA TEPVLHKPVYLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAHMFFIHAFCMM TEPVLHKPVXLFLCMLSTIDLAASVSTVPKLLAIFWCGAGHISASACLAQMFFIHAFCWM human, GPCR, guanosine triphosphate-binding protein coupled receptor; gene therapy. 1 MSSTLGHNMESPHHTDVDPSVFFLLGIPGLEQFHLWLSLPVCGLGTATIVGNITILVVVA Gaps ., 0 Length 329; Indels (NAAD-) NAT INST ADVANCED IND SCI & TECHNOLOGY. (ADSC-) CENT ADVANCED SCI & TECHNOLOGY INCUBATIO. 98.4%; Score 1691; DB 7; 98.8%; Pred. No. 6.7e-178; live 1; Mismatches 3; 301 VYGVKTKQIRKRVVRVFQSGQGMGIKASE 329 301 VYGVKTKQIRKRVVRVFQSGQGMGIKASE 329 Aburatani SEQ ID NO 798; 28pp; English Ŕ Human GPCR protein SEQ ID NO:798 ADC86345 standard; protein; 329 18-JUN-2002; 2002EP-00013517. 18-JUN-2001; 2001JP-00246789. Suwa M, Asai K, Akiyama Y, (first entry) Matches 325, Conservative WPI; 2003-315783/31. N-PSDB; ADC86344. Local Similarity Sequence 329 AA; Homo sapiens EP1270724-A2 01-JAN-2004 12-JAN-2003 241 ADC86345; 61 Claim 2; Query Match RESULT 7 ADC86345 g 8 à à g Š g

09:24:30 2004

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Hyperchax By

1001 CATATICACATICTITIGGCCAAIGITIAICTGCITITIGCCACCTGCTCTTAAICCTGTG 1100 The present sequence is one of a number of isolated polynucleotides which encode polypeptides involved in olfactory sensation. The polynucleotides can be used in screening for olfactory agonists and antagonists. The methods allow for the determination of primary scents and the identification of the odour receptors used to detect these primary scents. The methods also enable determination of secondary scents and the identification of combinations of odour receptors that are involved in detecting such secondary scents. This enables the construction of a scent representation (also called a scent fingerprint or scent profile), which receptors are used to re-create and edit scents. Libraries of olfactory receptors are useful for determining the interaction pattern of a composition with the receptors, and can be used for determining differences in the olfactory faculties of different individuals 1101 GTATATGGAGTTAAGACCAAACAGATCCGTAAAAGAGTGTTGTCAGGGTGTTTCAAAGTGGG 301 ValTyrGlyValLysThrLysGlnIleArgLysArgValValArgValPheGlnSerGly New polynucleotides which encode polypeptides involved in olfactory sensation for identifying olfactory agonists and antagonists. Yanai I; Human, olfactory receptor, OR, primary scent determination, secondary scent determination; polypeptide library, odour rescent profile, scent fingerprint, scent representation; ds. 216 G; 290 T; 0 U; 0 Other; Fuchs T, Human olfactory receptor polynucleotide, SEQ ID NO: 963 317 3 0 0 Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps: Glusman G, GlnGlyMetGlyIleLysAlaSerGlu 329 Claim 8; Page 349; 1857pp; English. Lancet D, BP. Sequence 963 BP; 181 A; 276 C; 1.33e-164 1649.00 99.07% : 98.75% (DIGI-) DIGISCENTS. (YEDA) YEDA RES & DEV CO LTD 08-OCT-1999; 99US-0158615P. 24-FEB-2000; 2000US-0184809P 06-OCT-2000; 2000WO-US027582 AAH31850 standard; DNA; 963 30-JUL-2001 (first entry) Bellenson J, Smith D, WPI; 2001-290713/30. WO200127158-A2

Applican

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New G-protein coupled receptors useful for treating or preventing cell proliferative (e.g. leukemia), neurological (e.g. stroke), cardiovascular or autoimmune/inflammatory disorders.
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                                                                                               Human; cytostatic; neuroprotective; immunosuppressant; nootropic; anti-inflammatory; anti-viral; gastrointestinal, cardiovascular; cerebroprotective; G-coupled receptor; cell proliferative disease; lymphoma; leukaemia; breast cancer; cirrhosis; neurological disorder; stroke, Alzheimer's disease; multiple sclerosis; mental retardation; cardiovascular disease; attherosclerosis; angina pectoris; indigestion; congestive heart failure; gastrointestinal disorder; dysphagia; AlDS; gastritis; autoimmune disorder; inflammatory disorder; Crohn's disease; systemic lupus erythematosus; metabolic disorder; Crohn's disease; viral infection; herpesvirus; parvovirus;
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                                                          Human G-coupled receptor (GCREC) cDNA, Seg ID No 42
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                                                                                                                                                                                                                                                                                                            acquired immune deficiency syndrome; ss.
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Au-Young J;
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02-UUN-2000; 2000US-0208834F
02-UUN-2000; 2000US-0208861F
07-UUN-2000; 2000US-0208861F
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Kallick DA, Gandhi AR, Au-
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                 14-MAR-2002 (first entry)
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US-10-081-775-2 (1-329) x ABK16633 (1-966)

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Length:
Matches:
Conservative:
Mismatches:
Indels:

1.34e-164 1649.00 99.07% 98.75% 95.98%

Percent Similarity: Best Local Similarity:

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Alignment Scores:

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DNA for olfactory and pheromone G protein-coupled receptor #212

Human

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The invention relates to olfactory and Pheromone G-protein coupled receptor (GPCR) or a protein 95% identical to the GPCR, a specific active receptor (GPCR) or a protein 95% identical to the GPCR, a specific active portion and its encoding polynucleotide. Also included are an agonist, antagonist or inhibitor of the GPCR or the polynucleotide, a vector comprising the polynucleotide, a cell transformed by the vector, a noncomposition to protein and screening (detection and possibly, recovering) of compounds which are known or not known to be agonist, antagonists or inhibitors of natural compounds to the GPCR. The receptor-derived agonists, antagonists, inhibitors or compounds are used as an improvement, elimination or substitution of an existing taste and/or a improvement, elimination or substitution of an existing taste and/or a compounds are used as an improvement, elimination of medicament in the treatment and/or prevention of a mammalian disorders, such as cell migration, sterility, psychotic and connection and inerve regeneration for modulating male and female connection and nerve regeneration for modulating male and female or received the mension of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel pheromone G-protein coupled receptor and receptor-derived agonists, antagonists or inhibitors useful in food or cosmetic products or in the treatment or prevention of neurological disorders such as anxiety and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       behaviours, such as stimulation or suppression of appetite, sexual motivation, sexual attraction, aggression and for promoting or suppressing chemical communication between organisms. The present sequence is a human DNA encoding an olfactory and pheromone GPCR
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98.75%
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BP

ABK68612 standard; DNA; 966

ABK68612

02-JUL-2002 (first entry)

ABK68612

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Appendix B7

29 G1 69 Va 181 GGG 29 P T C 29 G1 193 P GG 481 TG7 209 G1 209 G1 200	9 GlyLeuGluGhPheHisLeuTrpLeuSerLeuFroYalCysGlyLeuGlyThralaThr 48 61 GGTCTGGAACAATTTCTGTGCTCTACTCCTGTGTGTGTGT
4 00 H	32 96
329 GI 	329 963

Human; gene; anorectic; antiasthmatic; antidiabetic; hypotensive; antiparkinsonian; nootropic; neuroprotective; tranquiliser; antinflammatory; osteopathic; cardiant; neuroleptic; antiarthritic; gene therapy; olfactory G protein-coupled receptor; dPCR; infection; obesity; diabetes; hypertension; malnutrition; Parkinson's disease; Alfaheimer's disease; Korsakoff's psychosis; anxiety; rheumatoid arthritis; chronic obstructive pulmonary disease; osteoporosis; asthma; myocardial infarction; schizophrenia; New olfactory G protein-coupled receptor gene nucleic acid and by Orypeptide, useful for diagnosing or treating a disease or condition associated with GPCR, e.g. obesity, diabetes, hypertension, malnutrition or Alzheimer's disease. Human G protein coupled receptor coding sequence SEQ ID 205 Claim 1; Page 103; 383pp; English. 24-JUN-2002; 2002WO-IB002481. 26-JUN-2001; 2001US-0301095P. 06-NOV-2001; 2001US-0332758P. Martinez RAM, Sigurdsson GT; (DECO-) DECODE GENETICS EHF WPI; 2003-175284/17. osteoarthritis; ds. P-PSDB; ABR01673 WO2003000735-A2. Homo sapiens. 03-JAN-2003

The present invention relates to novel human olfactory G protein-coupled ABRO1571-ABRO1685). The GPCRs and coding sequences (ABZ779872-ABZ77986 and ABRO1571-ABRO1685). The GPCRs and coding sequences are useful for diagnosing or treating a disease or condition associated with GPCR, e.g. infections, obesity, diabetes, hypertension, malnutrition, Parkinson's disease, Alzheimer's disease, Korsakoff's Es psychosis, anxiety, rheumatoid arthritis, chronic obstructive pulmonary disease, osteoporosis, asthma, myocardial infarction, schizophrenia, or osteoarthritis

Sequence 948 BP; 174 A; 266 C; 202 G; 306 T; 0 U; 0 Other;

88 TIGITGITGITGITIGITTCCACAATTGIGGGCAATATAACTATTCTGGTTGTTGTT 147 40 ProValCysGlyLeuGlyThrAlaThrIleValGlyAsnIleThrIleLeuValValVal AlaThrGluProValLeuHisLysProValTyrLeuPheLeuCysMetLeuSerThrIle 79 20 SerValPhePheLeuLeuGlyIleProGlyLeuGluGlnPheHisLeuTrpLeuSerLeu 39 Length:
Matches:
Conservative:
Mismatches:
Indels: Gaps: US-10-081-775-2 (1-329) x ABZ77974 (1-948) 1.01e-135 1376.00 94.16% 91.75% Percent Similarity: Best Local Similarity: Query Match: Alignment Scores: .09 셤 ò ద ठ Dp

80 208

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BP.

ABZ77974 standard; DNA; 948

ABZ77974;

17-APR-2003 (first entry)